Attorney Docket: 381TO/41092CO
PATENT

#17
Appeal Brief
E. Burns
04/30/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	HIROSHI ONISHI ET AL.		
Serial No.:	09/498,856	Group Art Unit:	3661
Filed:	FEBRUARY 4, 2000	Examiner:	ZANELLI, M.
Title:	AUTOMATIC TRANSMISSION CONTROL SYSTEM FOR AN AUTOMOBILE		

APPEAL BRIEF

Commissioner for Patents
Washington, D.C. 20231

Sir:

Pursuant to the Notice of Appeal filed December 5, 2001, Appellants herewith submit their Appeal Brief in accordance with the provisions of 37 CFR § § 1.17(f) and 1.192. A two month extension of time petition under 37 C.F.R. § 1.136 (a) is also submitted herewith. Please charge all fees in connection with both the Appeal Brief and the extension of time to Deposit Account No. 05-1323 (Docket # 381TO/41092CO).

I. REAL PARTY IN INTEREST

This application has been assigned by the inventors to Hitachi, Ltd., a Japanese corporation. Accordingly, the real parties in interest to the present appeal are the named inventors and Hitachi, Ltd.

II. RELATED APPEALS AND INTERFERENCES

see attached correction

There are no other appeals or interferences know to appellants, to appellants' legal counsel or to the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 12-14 are currently pending in this application. All of claims 12-14 have been rejected on the ground that they constitute an improper recapture of broadened claim subject matter surrendered in the application for the patent upon which the present reissue application is based. (See U.S. Patent No. 5,510,982).

The application has also been objected to under 37 C.F.R. § 3.73(b) as lacking evidence of the right of the assignee to take action. Specifically, the final Office Action indicated that the assignee's assent fails to establish ownership/title, and further that this defect might be remedied by identifying real/frame number of recordation of appropriate assignment documents, or by documentary evidence of the chain of title. With the response to final Office Action dated November 5, 2001, Applicant has submitted a copy of the assignment of the parent application Serial No. 09/064,765, of which the present application is a continuation. Moreover, this assignment is recorded at reel number 6468, frame number 0019. Accordingly, Appellant believes that this issue has been resolved.

IV. STATUS OF AMENDMENTS

Preliminary amendments dated February 4, 2000 and July 7, 2000 have been entered. In addition, an amendment submitted April 4, 2001 in response to the first Office Action dated January 4, 2001 has also be entered. No further amendments have been filed.

V. SUMMARY OF THE INVENTION

The present invention is directed to a control system for an automatic transmission having a torque converter, in which a control unit controls the automatic transmission based on an estimated torque value derived by comparing the ratio between turbine revolution speed and engine revolution speed. Depending on the value of the ratio of these two quantities, the output of one of two torque estimating units for estimating an input torque of the automatic transmission is selected for controlling the automatic transmission. The first of these two input torque estimating units generates an estimated torque value based on an engine torque characteristic, while the second such input torque estimating unit generates an estimate based on a torque converter characteristic. The selected estimated torque value is then used by the control unit for controlling the automatic transmission.

This embodiment of the invention is depicted in Element 108 of Figure 10 of the issued patent, which is described at column 7, line 13 through column 8, line 7. In particular, as noted at column 7, lines 60-67, the turbine torque

estimation unit 1004 delivers the turbine torque based on the torque converter characteristic (element 1002), when the ratio is smaller than 0.8, and delivers the turbine torque based on the engine torque characteristics (element 1001), when the ration exceeds 0.8.

VI. ISSUES

The issue presented by this appeal is whether Claims 12-14 are properly rejected under 35 U.S.C. § 251 as constituting an improper recapture of broadened claim subject matter surrendered in the application for the patent upon which the present reissue application is based.

VII. GROUPING OF THE CLAIMS

The legal issues regarding Claims 12-14 are the same. Accordingly, Claims 12-14 may be considered collectively herein.

VIII. ARGUMENT

A fundamental premise underlying the rejection of Claims 12-14 in the final Office Action is that the quantity "input torque of said automatic transmission" as used in claims 12-14 of the present application is fundamentally the same as the quantity "output torque" of the claims in the issued patent. Applicants respectfully submit that this conclusion is incorrect.

Although there is a correlation between the output torque of an automatic transmission and the input torque of the transmission, these two quantities are basically different. For example, when the rotation ratio between the input axis and the output axis of the automatic transmission is 1:1, the input torque is equal to the output torque. However, when the ratio between the input axis and the output axis is 1:2, the input torque of the transmission is equal to one-half the output torque. Thus, the input torque and the output torque are not identical, and their use in the claims of the present application and those of the issued patent, respective are not simply equivalent characteristics of the same quantity.

More specifically, in the claims of the surrendered patent, an output torque To (1023) in Figure 10 is estimated, and a running lode T1 (1028) is estimated with the estimated output torque To and others. In Claim 12 of the present application, the first input torque Tt1 (1014) of Figure 10 and the second input torque Tt2 (1019) of the same figure are estimated. Thus, in the claims of the surrendered patent the construction of Element 110 of Figure 10 is the main subject matter, while Claim 12 of the present invention (like Claims 13 and 14) is directed to the construction of Element 108 of Figure 10. Accordingly, the claims of the present invention do not simply constitute a broadening of the subject matter claimed in the issued patent. Rather, they focus on a different element and a different feature of the disclosed invention, which is not claimed in the issued patent, through an oversight.

IX. CONCLUSION

Appellants therefore respectfully submit that the claims of the present application do not attempt to improperly recapture subject matter which was given up during the prosecution of the issued patent.

For the reasons discussed in detail above, appellants respectfully submit that Claims 12-14 are allowable. Accordingly, Appellants request that the Board reverse the final rejection of these claims and allow the present application.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #381TO/41092CO).

Respectfully submitted,

April 5, 2002

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APPENDIX

12. Control system for an automatic transmission with torque converter comprising:

first input torque estimating unit for estimating an input-torque of said automatic transmission using an engine torque characteristic;

second input torque estimating unit for estimating an input-torque of said automatic transmission using torque-converter characteristic;

selecting unit for comparing the ratio between turbine revolution speed and engine revolution speed (Nt/Ne) and a threshold value, selecting an estimated value from among estimated values from the first input-torque estimating unit and the second input-torque estimating unit in accordance with the comparison result, and outputting the estimated value selected as an estimated torque value, and

control unit for controlling the automatic transmission using the estimated torque value outputted from the selecting unit.

13. Control system for an automatic transmission with torque converter comprising:

first input torque estimating unit for estimating an input-torque of said automatic transmission using an engine torque characteristic;

second input torque estimating unit for estimating an input-torque of said automatic transmission using torque-converter characteristic;

selecting unit for comparing the ratio between turbine revolution speed and engine revolution speed (Nt/Ne) and a threshold value, selecting an estimated value from the first input-torque estimating unit when an ratio (Nt/Ne) is not smaller than the threshold and selecting an estimated value from the second input-torque estimating unit when the ratio (Nt/Ne) is less than the threshold, and outputting the estimated value selected as an estimated torque value; and

control unit for controlling the automatic transmission using the estimated torque value from the selecting unit.

14. Control system for an automatic transmission with torque converter comprising:

first input torque estimating unit for estimating an input-torque of said automatic transmission using an engine torque characteristic;

second input torque estimating unit for estimating an input-torque of said automatic transmission using an engine torque characteristic;

storing unit for comparing the ratio between turbine revolution speed and engine revolution speed (Nt/Ne) and a threshold value, and memorizing a deviation of estimated values from the first input-torque estimating unit and the second input-torque estimating unit when the ratio (Nt/Ne) is less than the threshold;

calculation unit for comparing the ratio between turbine revolution speed and engine revolution speed (Nt/Ne) and a threshold value, and calculating an estimated torque value by correcting an estimated value from the first input-

torque estimating unit using the memorized deviation when the ratio (Nt/Ne) is not smaller than the threshold; and

control unit for controlling the automatic transmission using the estimated torque value from the calculating unit.

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CERTIFICATE OF MAILING UNDER 37 CFR 1.8

Commissioner for Patents
Washington, D.C. 20231

Sir:

I hereby certify that an original of this Appeal Brief and Petition for Two-Month Extension of Time (with authorization to charge Deposit Account No. 05-1323, Attorney Docket No. 381TO/41092CO) are being deposited with the U.S. Postal Service as first class mail, postage prepaid, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D. C. 20231, on April 5, 2002.

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